

**ABSTRACT****IMPROVEMENTS IN OR RELATING TO RADAR SYSTEMS**

Described herein is a method and apparatus for improving high range resolution of a radar system. The method comprises phase shifting a radar pulse to be transmitted at substantially the radar transmission frequency and phase shifting the received radar pulse at substantially the radar transmission frequency. The phase shifting is implemented using a monolithic microwave integrated circuit (MMIC) (42) driven by a digital circuit (44) to provide a phase profile which is applied to radar pulse (52) produced by a radar pulse generator (54) and which is also applied to a received radar pulse (60). A master clock and synchroniser (72) provides clock signals for an analogue to digital converter (ADC) (68), the generator (54) and the digital circuit (44) so that the MMIC (42) is clocked at a frequency which is directly harmonically related to the ADC (68). This avoids spurious beat frequencies which could interfere with a wanted radar signal.

(Fig. 3)